

### **REMARKS**

Applicants have carefully reviewed the Final Office Action mailed December 18, 2008, and thanks Examiner Tolan for the detailed review of the pending claims. In response to the Office Action, Applicants have amended claim 1. By way of this amendment, no new matter has been added. Accordingly, claims 1 and 10-29 remain pending in this application. At least for the reasons set forth below, Applicants respectfully traverse the foregoing rejections.

As Applicants' remarks with respect to the Examiner's rejections are sufficient to overcome these rejections, Applicants' silence as to assertions by the Examiner in the Office Action or certain requirements that may be applicable to such rejections (e.g., whether a reference constitutes prior art, motivation to combine references, assertions as to dependent claims, etc.) is not a concession by Applicants that such assertions are accurate or such requirements have been met, and Applicants reserve the right to analyze and dispute such assertions/requirements in the future. Further, for any instances in which the Examiner took Official Notice in the Office Action, Applicants expressly do not acquiesce to the taking of Official Notice, and respectfully request that the Examiner provide an affidavit to support the Official Notice taken in the next Office Action, as required by 37 CFR 1.104(d)(2) and MPEP § 2144.03. Applicants respectfully request reconsideration of the present application in view of the above amendment, and the following remarks.

#### **Claim Rejections Under 35 U.S.C. §112**

Claim 1 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. More specifically, the Examiner rejected claim 1 for two reasons. First the Examiner stated that in claim 1, line 3, "portion" should be --portions--. Applicants have made this correction. Second, the Examiner stated that the limitation "said the at least two further longitudinal section" in line 11 lacks insufficient antecedent basis. Applicants have made the appropriate correction. Accordingly, withdrawal of the objections is respectfully requested.

**Claim Rejections Under 35 U.S.C. §102**

Claims 1 and 10-20 were rejected under 35 U.S.C. 102(b) as being anticipated by Alexoff (U.S. Patent No. 4,616,500). Applicants respectfully traverse the rejection.

Claim 1, as amended, requires providing a mandrel having diameters stepped over its length, including at least “a first longitudinal section having a smallest first diameter and, adjacent to said first longitudinal section, a second longitudinal section having a second diameter being greater than said first diameter of said first longitudinal section, and, adjacent to said second longitudinal section, a third longitudinal section having a third diameter being greater than said second diameter of said second longitudinal section.” These features are not shown or disclosed in Alexoff.

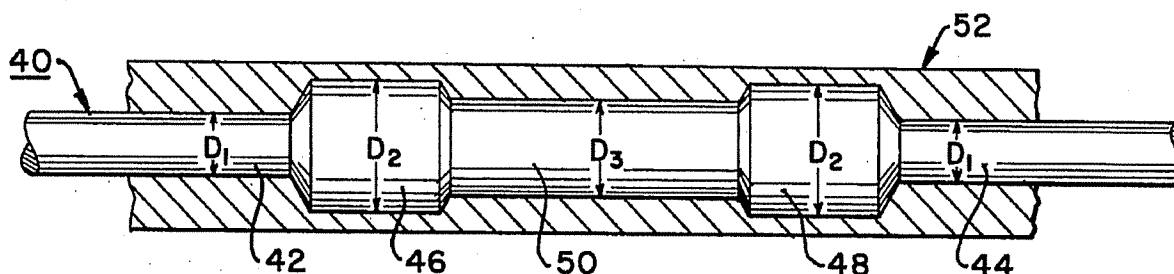
Further, claim 1, as amended also provides that the external diameter of the tube is reduced to produce a first end portion, a first intermediate portion arranged to be adjacent to the first end portion, and a second intermediate portion arranged adjacent to the first intermediate portion. Because the first end portion, the first intermediate portion and the second intermediate portion are forced over the mandrel, the internal diameters of these portions will conform to the mandrel diameters. As such, the internal diameter of the first end will be smaller than the internal diameter of the first intermediate portion and the second intermediate portion will be larger than the second intermediate portion. See, e.g., FIG. 2h. These features are also not shown or disclosed in Alexoff.

Finally, claim 1, as amended positively recites inserting the mandrel into the tube and that the external diameter of the tube is reduced by moving the mandrel out of the tube. Support for this limitation may be found in at least paragraph [0013] and FIGS. 1b, 2b and 3b. This feature is also not shown in Alexoff.

As acknowledged by the Examiner, Alexoff does not show a mandrel having a first longitudinal section with a smallest first diameter and, adjacent to said first longitudinal section, a second longitudinal section having a second diameter being greater than said first diameter of said first longitudinal section, and, *adjacent to said second longitudinal section, a third longitudinal section having a third diameter being greater than said second diameter of said second longitudinal section*, as positively claimed by Applicants. Indeed, FIG. 5A (reproduced below) instead shows a

mandrel having a third longitudinal section having a third diameter that is *less than* the second diameter of the second longitudinal section.

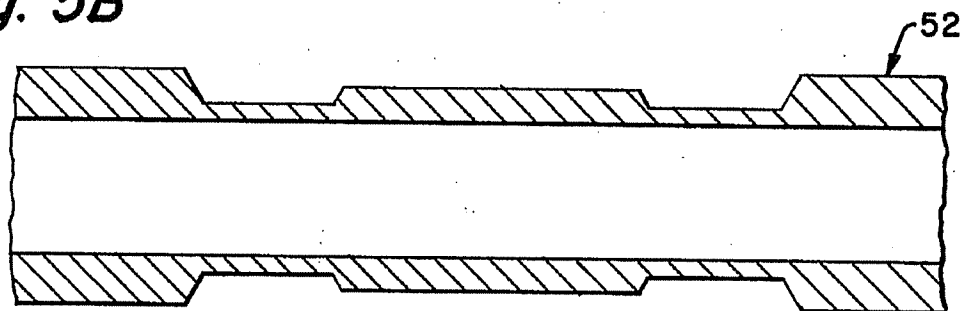
**Fig. 5A**



Further, the passage referenced by the Examiner on page 3 of the office action, also does not disclose the claimed features of the mandrel. More specifically, col. 5, beginning at line 46 states that the mandrel 40 can have end sections 42 and 44 of diameter  $D_1$ , enlarged sections 46 and 48 of diameter  $D_2$ , and an intermediate section 50 of  $D_3$ . Alexoff further states that the diameter of the end sections 42 and 44 need not be the same *as each other*, and that the diameter of the enlarged sections 46 and 48 also need not be the same *as each other*. There is simply no disclosure or even suggestion that the intermediate section 50 of Alexoff may be larger than the enlarged section 46.

Similarly, Alexoff does not disclose reducing the external diameter of the tube to produce a first end portion, a first intermediate portion and a second intermediate portion that conforms to the mandrel claimed in claim 1. More specifically, the internal diameter of the first end portion is the same as the internal diameter of the first and second intermediate portions, as illustrated in FIG. 5B, reproduced below.

**Fig. 5B**



Indeed, at col. 5, lines 56-61, Alexoff states:

*The inner periphery of the tube is forced to conform to the periphery of the mandrel 40 as the metal is plastically deformed and the tube extrudes. Thereafter, when the tube 52 is stripped from the mandrel, its inner periphery will conform to the diameter of the largest mandrel section (in this case sections 46 and 48); while its outer periphery will protrude at the thicker wall sections shown in figure 5B.*

Thus, Alexoff actually teaches away from claim 1. For this separate reason the rejection should be withdrawn.

Finally, claim 1, as amended requires that the mandrel is inserted into the tube at the start of the claimed method and the mandrel is moved out of the tube to form the hollow shaft. In contrast, Alexoff teaches forcing the tube, as it is extruding, over the mandrel 40. This results in undesirable plastic deformation, which leads to high stresses and limits the potential for formability of the tube. See, lines 56-61.

In the claimed method of claim 1, the mandrel may be pulled out of the hollow shaft without plastically deforming the hollow shaft. Thus, the tube material is less stressed. For this separate reason, claim 1, as amended is patentable over Alexoff.

Dependent claims 10-20 are dependent upon allowable claim 1, as amended. As such these claims are patentable at least by virtue of their dependency.

**Claim Rejections Under 35 U.S.C. §103**

Claims 21 and 22 were rejected under 35 U.S.C. 103(a) as being unpatentable over Alexoff (4,616,500) in view of Kaneko (U.S. Patent No. 6,758,077). Applicants traverse the rejection.

Claims 21 and 22 depend either directly or indirectly from claim 1. The remarks presented above with respect to the §102 rejection are equally applicable here. Specifically, the inadequacy of Alexoff to teach every element of independent claim 1 is also fatal to the Examiner's §103 rejection. Additionally, Kaneko does not make up for the inadequacies described above in Alexoff. Therefore, the combination of Alexoff and Kaneko does not teach every recitation of claims 21-22, as required in *In re Royka*.

Claims 23-29 were rejected under 35 U.S.C. 103(a) as being unpatentable over Alexoff (4,616,500) in view of Stump (U.S. Patent No. 4,161,112). Applicants respectfully traverse the rejections.

Claims 23-29 depend either directly or indirectly from claim 1. The remarks presented above with respect to the §102 rejection are equally applicable here. Specifically, the inadequacy of Alexoff to teach every element of independent claim 1 is also fatal to the Examiner's §103 rejection. Additionally, Stump does not make up for the inadequacies described above in Alexoff. Therefore, the combination of Alexoff and Stump does not teach every recitation of claims 23-29, as required in *In re Royka*.

**CONCLUSION**

In view of the foregoing, reconsideration of the application and allowance of the pending claims are respectfully requested. Should the Examiner believe anything further is desirable in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicant's representative at the telephone number listed below.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 18-0013, under Order No. 66967-0054 from which the undersigned

Application No. 10/562,658  
Amendment dated February 18, 2008  
Reply to Office Action of December 18, 2006

Docket No.: 66967-0054

is authorized to draw. To the extent necessary, a petition for extension of time under 37 C.F.R. §1.136 is hereby made, the fee for which should also be charged to this Deposit Account.

Dated: February 18, 2009

Respectfully submitted,

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